SECTION 9
Local Government Management and Policies

9.1 IDENTIFYING PROBLEMS

9.1.1 What Was Already Known:

Problems identified in Morgan County that are associated with local government policy are divided into three general areas: planning and zoning, regulation, and coordinated management.

9.1.1.1 Planning and Zoning

With respect to local policies, it was well known that Morgan County had only recently re-established zoning requirements. While the vast majority of Indiana counties were making use of some type of land use planning and zoning, (prior) leadership in the county had done away with most land use and zoning requirements.

For the period between February of 1997 and March of 2001, Morgan County was the only county in the rapidly growing, nine-county, Indianapolis Metropolitan Statistical Area in central Indiana (this includes the region of seven "donut counties" that surround and directly border the consolidated city of Indianapolis/Marion County) where there was no land use planning or zoning. The result of the abandonment of land use management policies in Morgan County during this four-year period included unrestricted land use change, poorly planned development, and little or no attention paid to the potential environmental impacts of land use and land use change.

With the exception of some land clearing processes associated with a few local developments, the lack of zoning policy during this four-year period did not significantly affect the subject watershed. Most of the poorly planned and unregulated land use change occurred north and east of the subject watershed. In March of 2001, the new Morgan County Commissioners re-established zoning, and a new Director of Planning was hired to re-visit and re-develop a comprehensive land use plan. Planning and zoning issues are fundamental and significant with regard to water quality protection. For this reason, an entire section of this Plan is dedicated to this issue. **Planning and Zoning issues are discussed in more detail in Section 8** of this Watershed Management Plan.

9.1.1.2 Regulation

Details regarding state and federal water quality regulatory policies are discussed in some detail in Appendix C of this Plan, Water Quality Regulatory Information. However, it should be pointed out that local water quality regulation is not prevalent in Indiana, and most policies, permits, rules, regulations, and enforcement are the responsibility of the state. The ability to regulate at the local government level is to a great extent, governed by state policies and authorities.

In Morgan County, as in all other local Indiana communities, there is an inherent lack local regulation and policy that would otherwise be most appropriately suited to the needs of the local community. With regard to water quality, such needs might include the desires of the local community, the realistic ability for a local community to actually achieve statewide water quality standards, and all issues related to such desires and capabilities that are unique to a ***local*** community such as: financial strength, industry, population, total impervious surface area, soils, forest canopy, cropland, recreational areas, existing and desired uses of water bodies, topography, weather patterns, and local priorities.

At the beginning of this study, it was known that the most current water quality regulatory program that will affect Morgan County is the assortment of Storm Water Phase 2 requirements under the National Pollutant Discharge Elimination System (NPDES). In Indiana, this has been

established and is commonly known as "Rule 13". While Rule 13 will indeed allow for local regulation of certain entities, it also ***requires*** such regulation, with a minimum set of requirements that are, as mentioned earlier, set by the state.

The inclusion of Storm Water Phase 2 management practices will be discussed in this section as they are related and extremely relevant to the management of this watershed. As mentioned, the details of the actual intent and requirements of Storm Water Phase 2 are discussed in Appendix C, with other water quality regulatory policies.

9.1.1.3 Coordinated Management

The issue of proper inter-governmental coordination (or lack thereof) is not a data-supported, technical issue or a tangible, identifiable water quality problem. This is a human and program management issue, of which some might initially have difficulty seeing the importance or relevance to a watershed management plan. On the contrary, the Watershed Coordination Team understands this issue to be a fundamental, overriding challenge that must be overcome if any "tangible" corrective actions are to be effective at improving and protecting water quality in the long term. While data-supported, local problem-solving corrective actions are the intent for the Section 319 Program (the funding source for this Plan), such projects will, over time, be fruitless without programmatic change in water quality management at the local and state levels.

At the beginning of this watershed study, it was known that, like virtually every other local government in Indiana, all issues that impact water quality were not being addressed collectively among a variety of departments and agencies.

Throughout Indiana, local governments operate parochially with respect to local city, town, and county departmental management. What was known and understood in Morgan County was that the responsibility of analysis of water quality, water quality protection, and the management of land use that affects water quality fell under several different authorities. Indications at the beginning of the watershed study were that there was likely some gap in communication among local and state agencies that deal with water quality, land use management, and related policies. Government coordination and communication gaps needed to be analyzed.

9.1.2 What Was Learned During the Process

Too often in government, "the right hand does not know what the left hand is doing". No state or large city government is completely immune to this rule. While, in the area of water quality management, redundancy and inefficiency are not uncommon at the state and federal level, Morgan County and the municipalities it encompasses is also functioning with a few ***local*** coordination and communication gaps that exist naturally, due to the size and complexity of a growing county government.

During the time of this watershed study and the preparation of this Watershed Management Plan, a commonly referred-to issue in the national media was that of "homeland security", an issue that provided the Watershed Initiative with a clear and understandable analogy regarding governmental collaboration. Specifically, pundits and critics alike pointed out that many of the federal and local organizations that dealt with overlapping security issues (i.e., the CIA, FBI, INS, Coast Guard, and local law enforcement agencies to name a few) were not communicating, sharing information, or integrating their goals, objectives and processes. Critics pointed out that much of this was due to an institutional evolution of top-heavy bureaucracy, turf, and competition for funding among agencies. Most politicians from all parties agreed that lack of intergovernmental cooperation was a costly

and wasteful problem at the federal level. The Watershed Initiative soon concluded that such challenges were not limited to the federal government or national security issues, but common among all levels of state and local governments as well.

Typically, the larger and more complex an organization or group of organizations becomes, the more opportunities evolve for communication and management to become fragmented. This is especially true when different agencies and organizations, which are not related to one another, are working on similar subject matter and in similar geographic areas. This holds especially true in the areas of water resource management in Indiana. One unfortunate result of this complex web of activities is information and management gaps, resulting in inefficiencies.

Lack of communication is both a driving force behind the need for implementation of an integrated, coordinated, watershed management approach as well as an obstacle and delay for making such an approach work. The agencies that support state and local government efforts are often unaware of what sister departments or agencies are doing. While more often perception than reality, there is occasionally a "turf" issue, where an agency or local department is hesitant to share information or work with other agencies or departments for fear that such coordination might affect job security or require the sharing of credit for a commendable or high-profile project. Most of the lack of coordination however is innocent and is simply due to the shear size and workload of individual agencies or departments. Regardless, with multiple government agencies, and/or departments often dealing with similar issues and performing similar functions, coordination is essential to the success of their endeavors.

The watershed coordination team's analysis of state and local efforts toward water quality management concluded that Morgan County is quite similar to every other county in Indiana with regard to water quality management structure. It was observed that indeed, several local, state, and federal government entities that function within the watershed function independently from one another and with little or no communication or integrated planning between agencies.

One ***exception*** to this is the formalized interaction between Morgan County Soil and Water Conservation Service and three other agencies, the IDNR, the IDEM, and the USDA Natural Resources Conservation Service. Through a physical coexistence in the SWCD Office and an integrated management process, these 4 agencies do maintain a fair amount of communication, information sharing, and mutual assistance.

Aside from the organizational integration at the SWCD Office, observations support the conclusion that, like virtually every other county in Indiana, interdepartmental communication and integrated management could stand to be improved. It is typical of a growing local government to experience "departmental segregation", and it is challenging for local leadership to actually integrate departments to the extent that the general public may perceive them to already be. What the public usually perceives to be one local government body, staff and elected officials often see as a group of "agencies" whose budgets, management, goals, and objectives are all different from one another. What the general public does not typically realize, is that Indiana Code dictates, to a certain extent, the process of departmentalization of municipal and county governments and the process by which those departments are established, managed, and budgeted. This should not suggest however, that the public's perception of the collective county government "working as one" and their desire to see efficient, integrated management in government is illogical.

To address these logical public desires, this section describes the recommendation of "blending" departmental staff beyond periodic department head meetings and

project routing forms. This integrated management model is based on the use of watershed regions, where information sharing and the early coordination of plans can be very beneficial to the county government and the municipalities that exist therein. The model will also help prepare the local community to better manage Total Maximum Daily Loads (TMDLs) and the approach of the federal Watershed Rule, now under development.

A combination of the coordination team's experience working with local governments, observations, informal meetings, and other interaction with various city, town, and county staff during the period of the watershed study supported the development of a collective profile of organizational structure, staff responsibilities, and an understanding of the people and programs dealing with water resource management, programs that affect water resources (such as development and land use change), and the level of interdepartmental coordination that exists among those entities. The following questions were assessed by the coordination team as part of the local government policy analysis and associated with the watershed study. The answers to these questions have helped to identify areas needing improvement.

(1) How are various county agencies and city departments within the county communicating and coordinating efforts that impact water quality?

(2) Are there dislocations or gaps in communication among county (and municipal) staff whose actions impact water quality?

(3) Are actions being taken that are redundant or do not consider the actions of the other departments or agencies whose actions impact water quality?

(4) How can County government prepare, through its management processes, for the State's implementation of Total Maximum Daily loads on streams within Morgan County that are currently listed on the 303(d) list of impaired waterbodies.

(5) How can the County work toward integrating various permit requirements and master plans associated with storm water, development, TMDLs, etc.?

(6) How can water quality be incorporated as one (of the many) criteria used in decision making (zoning, infrastructure, ordinances, etc)?

(7) How can the County evaluate the performance of infrastructure improvement designed to protect water quality?

9.1.2.1 Identifying the Affecting Entities

Many federal, state, and local authorities share the responsibility of evaluating, regulating, enforcing, managing, or otherwise impacting water resources and public health across the nation. Collaboration and information sharing among these organizations through an integrated teaming process could greatly enhance the cost-effectiveness of water quality management.

9.1.2.1.1 Federal Agencies

The following federal agencies are directly involved with water quality protection and/or management in one form or another:

The U.S. Department of Interior

- U.S. Geological Survey
- U.S. Fish and Wildlife Service

The U.S. Department of Agriculture

- Natural Resources Conservation Service

The U.S. Environmental Protection Agency

The U.S. Army Corps of Engineers

9.1.2.1.2 State Agencies

The following state agencies are directly involved with water quality protection and/or management in one form or another. Since these agencies are more directly involved in local community issues in Indiana, their responsibilities are briefly discussed:

The Indiana Department of Environmental Management (IDEM):
The Indiana Department of Environmental Management's Office of Water Quality (OWQ) implements and enforces the Clean Water Act. With oversight from U.S. EPA Region V office in Chicago, Illinois, IDEM's OWQ Wastewater Permitting Branch maintains responsibility for Indiana's NPDES permit program and for issuing, modifying, revoking and reissuing, terminating, denying, monitoring, and enforcing permits for the discharge of pollutants from point sources and imposing and enforcing pretreatment requirements. The Permitting Branch issues NPDES permits to wastewater dischargers in Indiana to regulate compliance with the Clean Water Act. It also issues construction permits for facilities needing to construct, install or modify any water pollution treatment control facility or sanitary sewer.

IDEM's jurisdiction includes all the "waters of the state" of Indiana, which is defined as "accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon this state". However, the term does not include any private pond, or any pond, reservoir, or facility built for reduction or control of pollution or cooling of water prior to discharge unless the discharge therefrom causes or threatens to cause water pollution.

The Indiana Department of Natural Resources:
The State Department of Natural Resources, Division of Water, is charged by the State of Indiana to maintain, regulate, collect data from, and evaluate Indiana's surface and ground water resources. The Division of Water is compromised of 17 sections divided between three branches: Engineering, Planning, and Regulation. The Division issues permits for: (1) alteration of the bed or shoreline of a public freshwater lake; (2) construction or reconstruction of any ditch or drain having a bottom depth lower than the normal water level of a freshwater lake of 10 acres or more and within ½ mile of the lake; (3) construction within the floodway of any river or stream; (4) placing, filling, or erecting a permanent structure in; water withdrawal from; or material extraction from; a navigable waterway; (5) extraction of mineral resources from or under the bed of a navigable waterway; and (6) construction of an access channel.

The State Department of Natural Resources, Division of Reclamation, is responsible for implementing the federal Surface Mining Control and Reclamation Act (SCMRA). The Division of Reclamation issues permits to coal mining companies, which allows them to mine coal in Indiana. The Division of Reclamation works closely with the IDEM to protect the waters of the state through the issuance and enforcement of construction permits and NPDES permits involving coal mining activities. The Division of Reclamation has primary responsibility for the compliance and enforcement of all coal mining and wastewater permits.

The Indiana State Department of Health:
The State Department of Health is responsible for training and providing technical assistance to county health departments regarding residential septic systems. In addition, the Department also is responsible for issuing construction permits to all commercial on-site non-discharging sewage disposal systems.

9.1.2.1.3 Local Government Operations in Morgan County
Water Quality and Quantity issues were identified as being directly related to or affected by the following local departments and/or agencies. These local county government agencies deal directly, on a day-to-day basis with these many related issues:
Morgan County Soil and Water Conservation District (SWCD)

The Morgan County Soil & Water Conservation District (SWCD) is responsible for assisting the land users and residents of Morgan County in the protection and improvement of the environment. Working in partnership with other governmental agencies such as the Indiana Department of Natural Resources (IDNR), Natural Resources Conservation Service (NRCS), and Farm Services Agency (FSA), the SWCD aids in the development of basic resources in Morgan County, placing emphasis on the protection of prime agricultural land and other priority resources such as water quality.

Morgan County Board of Health

The Morgan County Board of Health is dedicated to protecting the health and wellness of county citizens and safeguarding the environment for use by county citizens. Among other things, the board of health is charged with issuing permits for residential septic systems. Ensuring that septic systems are properly installed, serviced, and maintained is crucial to the quality of local water resources. Excess nutrients and bacteria associated with discharges from septic systems can be stressful to aquatic organisms and can potentially cause health problems to people using local water bodies for recreational purposes.

Morgan County Surveyor

The Morgan County Surveyors office is responsible for recording all section corners throughout the county. The Surveyor is also charged with reconstruction and maintenance of legal drains/ditches; issuing drainage related permits; and calculating drainage assessments. All regulated drains have a direct impact on water quality, as they are the main conveyance by which rain and storm water make their way into local rivers and streams. Therefore, it is important that these drains be regulated in a way that considers the potential impacts to water quality in the permitting process.

Morgan County Highway Department

The Morgan County Highway Department oversees the construction and management of bridges and roads within the county's jurisdiction, and oversee certain ditch maintenance and driveway permits. Storm water runoff associated with impervious surfaces such as bridges and roads can have significant impacts on local water quality. Pollution associated with this runoff includes road salt/snow melting agents, automobile wastes, sediment, general litter and other sources. It is important for bridges, roads, and ditches to be managed in a way that considers the impacts that these sources of pollution can have on water quality.

Morgan County Department of Planning

Morgan County Department of Planning is charged with land use planning and zoning throughout the county's jurisdiction. The department of planning has the ability to limit the impact that construction and development have on water quality. Increased development and changes in land use can increase the amounts of storm water runoff, which can increase erosion and loadings of manmade pollutants into local waterways. The Department of Planning has the ability to target and prioritize growth and development in a way that allows for protection and consideration of water quality issues in the planning process.

9.1.2.1.4 City and Town Departments

Water Quality and Quantity issues were identified as being directly related to or affected the following city and town departments:

City of Martinsville Public Works
City of Martinsville Engineering Department
City of Martinsville Planning Department
City of Martinsville Parks Department
City of Martinsville Fire Department
Monrovia Town Engineer
Monrovia Planning Department

9.1.2.1.5 Non-Government Local Water-Focused Organizations

In additional to the complex web of governmental organizations, several conservation, sports, and environmental activist organizations also exist and that are active in the subject watershed. These include, but are not limited to:

- The Mallory Conservation Club
- The Hoosier Environmental Council
- The Central Indiana Land Trust
- The Indiana Nature Conservancy
- The Sierra Club-Heartlands Chapter
- Citizens Action Coalition
- Improving Kids Environment

9.1.2.1.6 Local Programs and Plans Currently Underway

The items listed below are just a few of the planning documents that are or soon will be under development or that already exist within Morgan County. Many of these projects are required by law. Some are extremely detailed, time consuming, and expensive. There is a great deal of potential for integration of these individual plans and associated documents:

- Morgan County Comprehensive Land Use Plan
- Martinsville Comprehensive Land Use Plan
- Monrovia Comprehensive Land Use Plan
- Storm Water Phase 2 Notice(s) of Intent, Characterization Report(s), and Storm Water Management Plan(s) for at least four regulated urbanized areas.
- Wellfield Protection Plans
- Operations Plans for wastewater treatment plants
- Watershed Management Plan(s)
- Agriculture and conservation plans and strategies of the SWCD.

All of the issues of focus in the above-listed plans should be developed with direct and consistent consideration of one another and looked at collectively and holistically from a watershed perspective.

9.2 GOALS AND DECISIONS

Primary Goal #4 of this Watershed Management Plan, as outlined in Section 1 of this document is, "to the greatest extent possible and with existing and potential resources, improve and protect water quality in the watershed with the intention, where applicable and appropriate, to achieve and maintain state water quality standards." In order to achieve Primary Goal #4 of this Watershed Management Plan, the following objectives related to efficient local governmental operations an integration of overlapping regulatory programs have been established by the Watershed Initiative.

In order to support this goal, the recommendations included in this section will be to enhance such activities and to make them more meaningful, efficient, and effective. What is proposed in this section is to some extent a new way of thinking and a policy-driven approach to water quality management that should result in an inclusive environment for multiple departments, governments, and agencies. The approach will also help prepare the local community to better manage TMDLs.

Objective #9-1

Acquisition and Thorough Implementation of a Countywide Geographical Information System (GIS)

The success of the proposed teaming process (see Objective 9-3) will depend in part on the consistent availability of up to date GIS information that is easily accessible by local government staff and ultimately the public. GIS provides an invaluable tool for integrated evaluation of everything from areas with water quality impairments, to proposed developments and capital infrastructure improvement projects.

Recommended layers/themes for immediate use in GIS (for watershed management)

- Hydrologic Unit Codes (available via the Internet) delineated watersheds
- Current land use
- Zoning
- Aerial photography

- Streets, Roads, and related infrastructure
- Proposed or planned improvements to infrastructure
- Legal ditches, streams, lakes, and other bodies of water
- Proposed re-zoning applications and proposed development sites
- Drainage Complaints
- Water Quality monitoring results.
- Water Quality Bibliographic Information
- Professional, Public Agency, and Public Official Contacts list
- Other

It is further recommended that the county examine other local government GIS programs throughout an appropriate shared region, such as the Indianapolis MSA or the Upper White River Watershed. Upon examination, it is recommended that the county choose a GIS software that is commonly used and therefore compatible with surrounding community data, so that such data is to be shared regionally at a future date.

Objective 9-3

Establish Watershed Management Areas

Watersheds have been delineated throughout the nation and are identified through a cataloging process utilizing **Hydrologic Unit Codes** (HUC) in a hierarchical scheme. These codes were developed by the United States Geological Survey and apply to watersheds of similar sizes nationwide. HUC codes are utilized by federal and state agencies as a common language that uniquely describes a unique watershed by region, subregion, accounting unit, and subunit. For example, starting at the eight (8) digit HUC watershed level, smaller watersheds within an 8-digit region are uniquely designated and identified by adding digits, in units of 3, to the end of the larger HUC. These designations are typically used to produce increasingly smaller 11 or 14 digit watershed HUCs. For a spatial perspective, there are 42 eight-digit watersheds within Indiana and roughly 2,211 8-digit watersheds across the United States.

These 8-digit regions are then subdivided again and identified by an 11-digit code (the 8-digit code plus 3). One more subdivision of the 11 digit regions provides a similar 14-digit identification code). These regions will have more and more significance with development of policies related to TMDLs, wetland mitigation, NPDES permits, etc.

The map in figure 9-1 shows the watersheds delineated at the "11-digit" level in Morgan County. The watershed of focus for this watershed plan is highlighted in blue.

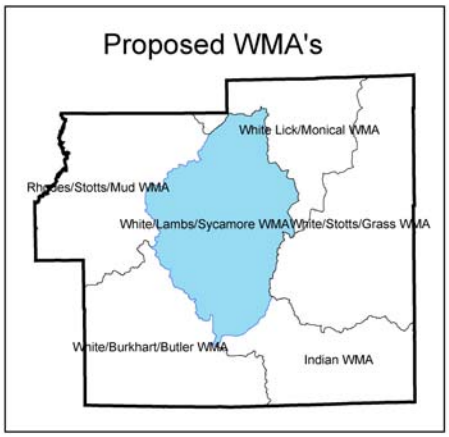
It is recommended that six management regions be permanently established as a fundamental first step in developing a thorough and consistent watershed management and staff integration program in Morgan County. These regions are discussed below and are illustrated on the map (following page). The regions have been derived from prior watershed delineation work and should be integrated into the County's Geographical Information System, once established.

Action 9-1

- Establish the 6 primary Watershed Management Areas (mapped) as permanent integrated watershed agency teaming regions, also known as Watershed Management Areas (WMA).
- ***Description of 6 Proposed Management Regions (Watershed Management Areas)***
  Six Watershed Management Areas (WMAs) are proposed for staff regional focus and interaction amongst County staff. These WMAs are:
- White/Lambs/Sycamore WMA (HUC 05120201160)
- Rhodes/Stotts/Mud WMA (HUC 05120203060)

- White Lick/Monical WMA (HUC 05120201150)
- White/Stotts/Grass WMA (HUC 05120201140)
- White/Burkhart/Butler WMA (HUC 05120201180)
- Indian WMA (HUC 05120201170)

Figure 9.1: Proposed Watershed Management Areas for consistent, regionalized agency communication



Objective #9-2
Organizational/Staff Regionalization Based on WMAs

Action 9-2

- Identify key staff from each local county, city, and town agency who will focus in a designated WMA.

Action 9-3

- Initiate consistent teaming among county, city, and town team members through a monthly meeting and early planning/coordinating process.

Action 9-4

- As part of the teaming process discussed earlier in this section, data, proposed projects, and other relevant information should be updated consistently in a database format that can be queried, by watershed, into the GIS system. Watershed-queried capital improvement project lists should be regularly reviewed and analyzed for water quality impacts and for potential synchronization with other departmental projects.

  In addition to the capital improvement project lists, private development projects will also be needed in watershed queried data.

Objective #9-3
Integrate Water Quality with the Comprehensive Plan for Morgan County

Morgan County has had an interesting history with development, planning, and zoning practices. In 1994, the County Commissioners adopted an updated Comprehesive Plan and Zoning Ordinance. Prior to 1994, the Comprehensive Plan and Zoning Ordinance were from 1956 and had been ammended numerous times to meet the changing needs of the community. Both the 1994 Comprehensive Plan and Zoning Ordinance were implemented until 1997 when the County Commissioners decided to discontinue the use of regulated planning and zoning practices in Morgan County. Planning and zoning practices were reinstated in 2001 following four years of haphazard and unregulated development throughout the county.

While the current plan and policy is much better than no policy at all, it should be expanded to a process that will consider long-term, water quality related priorities, policies, and participation of all stakeholders. A new Director of Planning was hired to ensure the appropriate development and public input of a comprehensive plan and to ensure that proper land use and planning is applied in Morgan County. More details of this recent history of planning and zoning are provided in Section 8 of this Watershed Management Plan.

"Growth" in Morgan County, especially if properly managed and coordinated, is good for the citizens and businesses in Morgan County. There is no suggestion in this Watershed Management Plan that economic growth and development are not good for the prosperity of the citizens of this county. However, the consideration of water quality and quantity should be a prioritized in the growth planning process. Surveys clearly suggest that when given a choice, people would much prefer to reside in a community that has clean water and limited flood potential rather than a community with poor water quality or flooding issues.

Land use is a major factor with regard to water quality. A comprehensive plan deals specifically with land use among its other areas of focus. With increased development and a new focus on the watershed approach in Morgan County, Section 8 of this Plan generally proposes that updates to the comprehensive plan incorporate water quality and quantity issues as highly prioritized considerations with regard to how development will occur. Such a policies can be implemented without hindering growth and development. However, additional thought, creativity, and some concessions will be necessary in order to protect water quality while prospering in terms of growth. The teaming process proposed in this Section should allow for more consistent flow of water quality related information to those directly involved in the comprehensive planning process.

Objective #9-4

Integrate Storm water ("Phase 2") Planning with Watershed Efforts

As part of the 1987 amendments to the federal Clean Water Act (CWA), Congress added Section 402(p) to the CWA to address the water quality impacts of storm water discharges from industrial facilities and large to medium municipal separate storm sewer systems (MS4s). Large to medium MS4s were defined as communities serving populations of 100,000 or more and are regulated by the Environmental Protection Agency (EPA) under the National Pollutant Discharge Elimination System's (NPDES) Storm Water Phase I Program.

In addition to these amendments, Congress directed the EPA to issue further regulations to identify and regulate additional storm water discharges that were considered to be contributing to national water quality impairments. On December 8, 1999, the EPA issued new regulations that expanded the NPDES Storm Water Program to include discharges from small MS4s in "urbanized areas" serving populations of less than 100,000 and storm water discharges from construction activities that disturb more than one acre of land. These regulations are referred to as Phase II of the Storm Water NPDES Program.

The State of Indiana, specifically the Indiana Department of Environmental Management (IDEM), is responsible for implementation of Phase II of the NPDES Storm Water Program. Indiana's Phase II Storm Water Rule was adopted as 327 IAC 15-13 on March 12, 2003. This rule is commonly known as "Rule 13" and contains the requirements for Indiana's statewide general permit for storm water discharges. The rule applies to regulated municipal separate sewer systems, or MS4s. Regulated storm water conveyance systems include roads with drains, municipal streets, catch basins, curbs, gutters, storm drains, piping, channels, ditches, tunnels and conduits. After appropriate signatures are applied, Rule 13 is anticipated to become effective in July of 2003 and will require designated MS4s to submit permit applications within 90 days of the effective date of the rule.

The IDEM has currently **designated four (4) MS4 entities in Morgan County as meeting the "urbanized area" criteria for coverage by Phase II of the NPDES Storm Water Program. Those designated entities inside the watershed are as follows:**

- **Morgan County**
- **Martinsville**

- **Mooresville**
- **Brooklyn**

In order to more efficiently and cost-effectively address Storm water Phase 2 requirements, which include, (1) Completion of the Notice of Intent (NOI) and initial permit application, (2) Development of the Storm Water Quality Management Plan (SWQMP) and supporting minimum control measures (MCMs), and (3) Completion of Monthly and/or Annual reporting requirements, it is recommended that the planning, management, and oversight of Storm Water Phase 2 in Morgan County ensure the following:

Action 9-5

- Consider and utilize all findings, data, educational programs, and public input already developed and included in this Watershed Management Plan in the Storm Water Management Program.

Action 9-6

- Integrate, wherever possible, Storm water Phase 2 programs between Morgan County and the municipalities of Martinsville, Mooresville, and Monrovia.

Action 9-7

- Through Watershed Teaming (see Action 9-3), ensure the consistent communication with and integration among programs and local agencies discussed in this Plan Section.

Simply stated, the County and the three affected municipalities can significantly reduce program costs if these three recommended actions are implemented. On the other hand, ignoring these suggestions can and will cause duplication of effort and redundant actions that will unnecessarily burden Morgan County taxpayers. Using an integrated watershed management approach will allow the local government entities to leverage resources both regionally and programmatically.

Objective 9-5

Implement Watershed Planning

This Watershed Management Plan is the first EPA grant-funded plan administered under the Section 319 Program for Morgan County. It is the intention of the Soil and Water Conservation District to continue developing new watershed plans in different areas of the county. Section 319 and other sources of funding for such planning will be pursued by the District.

"Watershed" has become a very common term in the areas of local government, environmental management, and permitting. While the definition may seem obvious, there have evolved many different ideas about what it really means to take a watershed approach to water resource management strategies, and at what level of management the term most effectively applies.

In order to adequately apply the concept and to gain the most benefit from such a management approach, it is essential that potential "watershed partners" begin to share a common perspective about watershed coordination. Thereafter, appropriate and common goals can be collectively set by those partners.

A typical definition of the watershed approach describes a coordinated means of management based on a region that is defined by natural hydrology. The resource becomes the focal point, and managers are able to gain a more complete understanding of overall conditions in an area and the stressors, which affect those conditions. The approach can lead to greater public awareness and a more logical and holistic means of addressing (and avoiding) water pollution. There are a variety of different definitions, and Morgan County can even form it's own unique definition based on its goals and priorities. However, the bottom line remains constant that since water quality, like air quality, is a regional issue, we need to coordinate, communicate, prioritize, and act on a regional basis

whenever possible. Such an approach is logical and it helps to efficiently reach common goals. Such coordination can be interdepartmental within the County on a "subwatershed basis" or on an inter-governmental and interagency basis region-wide as is intent of the Upper White River Watershed Alliance, Inc., a fifteen-county watershed region that encompasses much of western Morgan County.

In order to truly be effective in water quality and quantity management, all factors of potential impact in a watershed must be considered. Prioritizing watersheds for one issue such as combined sewer overflow (CSO) improvements or drainage is only attacking one piece of a complex puzzle. Other factors should also be considered during such prioritization so that the entire water-quality issue can be solved more comprehensively in prioritized target areas. Otherwise, significant amounts of money are invested in correcting only one of many causes of the overall symptoms (degraded water quality). If other (pollution) factors go unaddressed, then water quality goals may not be effectively or efficiently reached, and public funds may be ineffectively spent.

If watershed coordination is to be truly "locally-led", then Morgan County and all other stakeholders throughout the region must have an opportunity to work cooperatively from the municipal, county, district, agricultural, and citizen-group levels now, and should avoid waiting to place the burden of coordination on the state at a future time.

An inclusive watershed approach is very challenging for a regulated community like Morgan County to implement. Due to the timing and processes developed for state and federal permitting requirements, communities have historically been forced to attack the individual symptom or end result of one type of pollution problem rather than holistically attacking all of the independent and interrelated causes of the pollution. Watershed planning, which should be an overall, first tier management process for all water quality improvement and protection actions, is too often an afterthought to these parochially-planned projects.

Many current and developing regulations and policies place a great deal of emphasis on watershed coordination. Both the NPDES Storm Water Phase 2 requirements as well as implementation of Total Maximum Daily Loads will create an environment that fosters, if not demands coordinated management among communities that share a watershed. Communities that embark upon watershed coordination now will be much better prepared to deal with existing and future regulations and policies.

The Morgan County Watershed Initiative has determined that, while challenging, there is real value in incorporating and implementing a watershed approach to its planning processes and its environmental management programs. It is anticipated that, if appropriately implemented and supported, results will include both cost savings through avoidance of duplicative efforts, as well as thorough and permanent water quality improvements.

Objective 9-6

Anticipate and plan for Implementation of Total Maximum Daily Loads (TMDLs)

Finally, the development and implementation of TMDLs in Morgan County will be led by IDEM with the involvement and input from the public stakeholders.

In cases where permits and effluent limitations are unable to protect a stream's ability to meet state water quality standards, IDEM and the US EPA are required to list streams that demonstrate water quality impairments, that are not the result of a compliance issue, under the provisions of the Clean Water Act. Streams identified on

this list are required to undergo the Total Maximum Daily Load (TMDL) Process.

By definition, a Total Maximum Daily Load (TMDL) is the maximum amount of any given pollutant that a waterbody can absorb without violating water quality standards for designated uses, such as drinking water, aquatic life, and recreation. TMDL is also used to describe the process used for bringing a body of water back into compliance with water quality standards. This process involves assessing and/or measuring the probable sources of water quality problems in a water body and setting Waste Load Allocations (WLAs) for point source discharges and specific requirements and/or best management practices for non-point sources of pollutants that will bring the water body into compliance with water quality standards.

TMDLs are a requirement of Section 303(d) of the Clean Water Act that requires states to identify the waters within their boundaries that do not meet water quality standards. The list must identify the pollutant(s) or factor(s) responsible for the listing of each water body. States must then rank the waters on the list taking into account the severity of pollution and the designated uses of the waters. These rankings are used to set priorities for achieving water quality standards. Each State is required to review the 303(d) list, make changes as necessary, and submit the list to the U.S. Environmental Protection Agency (EPA) for approval in even-numbered years. Once a body of water is added to a State 303(d) list, a TMDL for that water body is calculated to meet water quality objectives.

States are directed by EPA to provide water quality data and watershed characterization and prioritization on a two-year cycle. Currently, Indiana's 305(b) reporting cycle is the (5-year rotational) vehicle by which IDEM provides information to EPA. This cycle focuses on the 5 primary basin regions in Indiana and pays specific attention to the aforementioned 8-digit watershed regions.

The State must submit the 303(d) list of impaired waters to EPA every two years. Typically, only the portion of the 303(d) list that has had monitoring completed in conjunction with the 5-year reporting cycle will have been updated. In other words, portions of the 303(d) list of impaired waters are updated every two years, while other (regional) portions are not. In the case of Morgan County, the latest 303(d) listing for 2002 included the region encompassing Morgan County, and new listings of stream segments were added to this list for being impaired since the initiation of the this Plan.

TMDLs can and most likely will have an impact on municipal and development and operations. As a result of the waste load allocations (WLAs) calculated for a TMDL, additional pollution discharge limits could be applied to a community's wastewater treatment plant or to local industries, requiring additional treatment or possibly new technology. Additionally, a community may be required to control and treat storm water runoff from their streets and parking lots. Even local farmers may be asked to use alternative methods in their operations to prevent fertilizers and pesticides from reaching rivers.

Once TMDLs are set, states will enforce them through permits and through management plans designed to prevent or limit runoff. Permits will include the pollutant limits and a schedule for compliance. In the meantime, States will continue to evaluate the waters in question and will modify the permits when appropriate.

Within Morgan County, the following streams have been listed on IDEM's 303(d) list:

- Lambs Creek, listed for for *E. coli* (in the watershed)
- White River, listed for *E. coli,* Cyanide, Mercury, and PCBs (in the watershed)
- North Prong Stotts Creek headwaters, listed for impaired

biotic communities (outside of watershed)
- White Lick Creek, listed for fish consumption advisory, mercury, and PCBs (outside of watershed)

This means that the TMDL issue will become an immediate management concern that, due to the timing of implementation on some streams, will become intertwined with the storm water phase 2 program.

Ironically, TMDLs are scheduled to be developed and implemented in 2003 for the two streams in the watershed on which this Plan focuses, which are Lambs Creek and White River. It is therefore logical and highly recommended that the TMDL process in Morgan County include the following actions:

Action 9-8
- Consider and utilize of all findings, data, and public input already prepared in this Watershed Management Plan.

Action 9-9
- Integrate and consider any and all agricultural BMP funding programs proposed in this Plan.

Action 9-10
- Integrate TMDL efforts with any and all NPDES permit programs, including Storm Water Phase 2.

Action 9-11
- Integrate, wherever possible, of Storm water Phase 2 programs between the City of Martinsville and Morgan County.

Action 9-12
- Ensure, through Watershed Teaming, the consistent communication with and integration among other programs and local agencies discussed in this Plan Section.

Action 9-13
- Complete a Use Attainability Analysis (UAA).

While an expensive endeavor to undertake locally, a UAA is a fundamental step that enables to the County to clearly understand the financial implications of meeting water quality standards and establish realistic water quality goals. Those goals are based upon historical, capable, and desired "uses" of certain water bodies. Once achievable goals have been approved by the state, then the planning and prioritization process involved in watershed planning can address and prioritize realistic, achievable goals. A community that completes and achieves state approval of a UAA, can be better prepared for the state's implementation of Total Maximum Daily Loads.

Objective #9-7
Implement Water Quality Considerations in County and City Operations
City and County operations, such as those that those related to road and bridge construction, snow removal, vehicle washing, ditch maintenance, flood management, and debris removal from streams should all begin to consider potential water quality impacts of those operations and identify alternative solutions where water quality may suffer. A cost benefit analysis should be consistently applied to the following activities and potential alternative methods that reach the same goal:
- Snow melting agents
- Vehicle washing

9.2.3 Loads or Contributions for the Management Measures
Load calculations for the management measures are not applicable to the recommendations in this section.

9.3 MEASURING PROGRESS

9.3.1 Indicators Selected to Determine Progress
A watershed is a region that is to some extent contained. This can be very beneficial to the water resource manager

because, unless outside factors are affecting drainage, a watershed or drainage basin can be evaluated independently of other watersheds.

Just as a watershed offers the capability to limit the geographical search for one pollutant, the performance of pollution removal and pollution prevention projects can be better evaluated by containing and examining data within segregated tributary watersheds. It is much easier to evaluate the effectiveness of a CSO removal project or storm water filtration action inside a given watershed.

Improved Water Quality
Field sampling and water quality data analysis within each subwatershed will provide a means by which progress can be measured. Improved water quality will be achieved through ongoing and proposed programs and projects regardless of whether or not management is better integrated. However, the level of efficiency and the pace at which water quality improvement can be achieved can be enhanced through integrated management while overall costs are reduced.

Improved Communication and Coordination
If implemented properly, the watershed approach can dramatically increase and improve communication among stakeholders and coordination among those whose actions affect the watershed. Gaps in communication and coordination among city departments result in inefficiency and therefore increased costs to the municipality.

During initial interviews of County staff, and regional organizations, several communication gaps were identified by the coordination team. The mere fact that a few key stakeholders that deal with water quality issues every day were invited but did not even participate in the watershed study is a clear indication that there is room in County (and municipal) government for improved communication and coordination.

In addition to the local county/city coordination regional coordination could also be improved by local participation in the regional (8-digit HUC) Upper White River Watershed Alliance, Inc. Information about this organization can be reviewed at www.whiteriveralliance.org.

Increased Knowledge of a Targeted Region
Just as a police officer gets to "know his beat", those who focus in a subwatershed region (see Section 2 recommendations on "teaming") gain a better knowledge of a watershed when focused upon that watershed as his or her region. Personnel have an opportunity to take ownership and pride in a given region for which they are responsible, as their work can be compared to the work of their colleagues in other watersheds regions.

Maximum utilization of Limited Resources
The County and local municipalities alike currently function with lean staff numbers, and the public typically demands local government to do more with less. The watershed approach as described in this report allows for coordinated focus among such limited personnel resources in order to avoid duplicative efforts, and to promote cooperation when working toward common goals. Because it eliminates redundancy and encourages coordinated efforts, it increases cost effectiveness.

Economic Value of the Resource
From an economic perspective, the White River and its tributaries can serve as a valuable resource to Morgan County. Future opportunities for new greenways, public access points, boat ramps, and fishing venues could provide character for the County, as well as popular venues for the ever-increasing thirst for outdoor recreation.

However, the riverside locations of these attractions can lose much of their appeal if their locations provide unpleasant odors, unsightly views of solid wastes, explicit signage, or even the knowledge or

impression that the water is unclean and unsafe.

Research of livability indices (such as Money Magazine's annual "Best Places to Live" feature) suggests that clean water ranks unexpectedly high on the list of concerns for relocation of residence. It is logical to assume that industries that are concerned about quality of life issues for their employees and that are looking to relocate to Morgan County could consider the issue of clean water. When selling the attractiveness of the County or local municipalities, inclusion of available water-related recreation is a plus.